

REMARKS

Claims 1-38 are pending in the application.

Claims 1-14 are allowed.

Claims 15-38 stand rejected.

Rejection of Claims under 35 U.S.C. §103

Claims 15-38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Aimoto (U.S. Patent No. 6,122,252) (hereinafter “Aimoto”) in view of Miller et al. (U.S. Patent No. 6,247,058) (hereinafter “Miller”). Applicants respectfully traverse this rejection.

As amended, claim 15 recites:

“receiving inbound packets from a network;
transmitting each of said inbound packets to a switching fabric;
selectively queuing outbound packets from the switching fabric;
detecting imminent or active dropping of outbound packets due to a queue being full;
signaling to drop inbound packets destined for said queue approximately when
said outbound packets are dropped or about to be dropped; and
dropping inbound packets destined for said queue” (emphasis added).

As noted on page 2 of the Office Action, “Aimoto fails to teach detecting imminent or active dropping of packets due to a queue being full.” Thus, the Examiner relies upon col. 6, lines 15-17 of Miller to teach “dropping packets when queue being full.” Office Action, p. 2. The cited portion of Miller states: “When an output buffer is full, incoming packets are discarded.” However, in Miller’s system, output buffer fullness does not necessarily indicate imminent or active dropping of outbound packets. Furthermore, Miller never drops incoming packets in response to the active or imminent dropping of outbound packets.

In Miller, packets in an output buffer are dropped in response to those packets being stale. This “conserves packet buffer memory by allowing incoming packets to be stored in a buffer if the buffer is full and packets have exceeded a minimum timeout interval. With respect to conserving packet buffer memory, when an incoming packet arrives and an output buffer in which the packet must be stored is full, the output buffer is scanned to identify packets exceeding the minimum timeout value. One or more of the oldest packets which are at least as old as the minimum timeout interval are discarded, thereby allowing the incoming packet to be stored in the output buffer.” Miller, col. 4, lines 40-50.

Thus, in Miller’s system, packets are dropped from the output buffer in order to prevent the dropping of incoming packets. Incoming packets are dropped only if the output buffer is full and no packets within that buffer can be discarded. In other words, incoming packets are only dropped when packets in the output buffer cannot be discarded. If packets in the output buffer are being discarded, Miller does not need to drop incoming packets, since those incoming packets can be stored in the space freed by the discarded packets that were previously stored in the output buffer. Thus, Miller quite clearly does not teach or suggest “signaling to drop inbound packets destined for said queue approximately when said outbound packets are dropped or about to be dropped” (emphasis added). The cited portions of Aimoto, both alone and in combination with the cited portions of Miller, also fail to teach or suggest this feature (as noted on page 2 of the Office Action).

For at least the foregoing reasons, claim 15 and its dependent claims 16-22 are patentable over the cited art. Claims 23-38 are patentable over the cited art for similar reasons.

Furthermore, there is no suggestion to combine the references. Aimoto and Miller each present significantly different architectures. In Aimoto’s system, a crossbar switch circuit couples the input and output sections of a switch. Aimoto, Fig. 1. In contrast, Miller’s system simply shows incoming packets being processed by a forwarding unit before being buffered for output. Miller, Fig. 4. There is no suggestion in the cited portions of either reference that techniques useful in one architecture would be useful or

desirable in a system implementing the other architecture. Furthermore, each reference sets forth its own complete technique for handling congestion, and neither reference expresses any deficiency in its own technique or a need for any other technique.

The Examiner states that it would be obvious to “implement the dropping method of Miller into Aimoto at the FIFO buffer of Aimoto to reduce the traffic load and [sic] during the congested period.” Office Action, pp. 2-3. However, Miller does not indicate that dropping incoming packets will reduce traffic load; instead, Miller notes that dropping packets due to full buffers leads to packets not being received, which in turn leads to packet retransmission. Miller, col. 4, lines 1-20. “An unfortunate consequence of requesting retransmission when packets timeout is that additional network bandwidth is required to transmit the same information when network traffic is heavy.” Miller, col. 4, lines 21-24. Thus, Miller actually teaches that dropping packets due to buffer fullness ultimately increases, not decreases, load during congested periods. Thus, the cited art quite clearly does not support (and, in fact, actually teaches the opposite of) the suggestion to combine presented in the Office Action.

Additionally, the focus of Miller’s invention is on minimizing the need to drop incoming packets by tracking and, if needed, discarding stale packets from the output buffers. See e.g., Miller, Abstract and Summary. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994). Given that Miller indicates that incoming packets should only be dropped when no packets can be dropped from a full output buffer, Miller can reasonably be read as teaching away from the claimed invention, which involves dropping incoming packets in response to the active or imminent dropping of outbound packets.

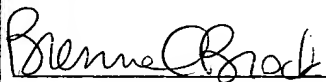
For at least the foregoing reasons, there is no suggestion to combine the references as suggested in the Office Action. Accordingly, Applicant respectfully requests the withdrawal of the §103 rejection.

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CONCLUSION

In view of the remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5087.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, COMMISSIONER FOR PATENTS, P. O. Box 1450, Alexandria, VA 22313-1450, on October 2, 2006.



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10/2/2006

Date of Signature

Respectfully submitted,



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